REMARKS

Favorable reconsideration of this application as amended is respectfully requested.

Claims 1-16, 18-25, 27-30 and 32-34 have been amended. Claims 1-16 and 18-34 remain active in the application. Claim 17 has been canceled. Claims 1-5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Doyle et al. (Doyle) in view of Vranish (5,373,245) and Wunderman et al (Wunderman). Claims 6-15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Doyle in view of Vranish and Wunderman as applied to claims 1-5 and further in view of Resman (6,459,424B1). Claims 16-18, 24, 31 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish (5,373,245). Claims 19 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish in view of Wunderman. Claims 20-23, 25, 28-30 and 34 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish in view of Wunderman as applied to claim 19 and further in view of Resman. Claim 26 is rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish. Claim 27 is rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish inview of Wunderman

Briefly, applicant's invention is a three-dimensional (3-D) interactive display system, display and a method of forming the same. A transparent capaciflector (TC) camera is formed on a transparent shield layer on the screen surface. A first dielectric layer is formed on the shield layer. A first wire layer is formed on the first dielectric layer, wires on the first wire layer run in a first direction. A second dielectric layer is formed on the first wire layer. A second wire layer is formed on the second dielectric layer, wires on said second wire layer are orthogonal to wires on the first wire layer. The TC camera is protected by a surface dielectric layer. Wires on the first wire layer and second wire layer are grouped into groups of parallel wires with a turnaround at one end of each group of parallel wires and a sensor pad at the opposite end. Each group of parallel wires includes five silver wires spaced a half a centimeter apart.

Objection to the Specification

Examiner has objected the abstract of the disclosure because the total word count exceeded 150 words and the abstract included legal phraseology. Applicant has amended the abstract to include less the 150 words and no legal phraseology. Thus, the abstract has been corrected to be in accordance with MPEP § 608.01(b).

Objection to the Drawings

Examiner has objected to the drawings as failing to comply with 37 CFR 1.84(p)(5) because sheet 12 included a reference sign (10A) not mentioned in the specification. Applicant has corrected sheet 12 to include the reference sign 12A so as to be consistent with the description in the specification. A replacement drawing sheet 12, which includes the correction, is hereby submitted. Thus the drawings have been corrected so as to comply with 37 CFR 1.84(p)(5).

Rejection Under 35 U.S.C. § 103(a)

Examiner has rejected claims 1-5 under 35 U.S.C. §103(a) as being unpatentable over Doyle et al. (Doyle) in view of Vranish (5,373,245) and Wunderman et al (Wunderman). Examiner states that Doyle teaches a 3-D interactive display which comprises a monitor screen and an array of pixels disposed upon the monitor screen. Examiner further states that Vranish teaches the use of capacitive pixels. Doyle discloses a device for displaying a three dimensional images onto a monitor screen (col 1, lines 17-21). Doyle dose not show or suggest that his device is interactive so as to receive three-dimensional input from the monitor screen. Vranish shows a capaciflector camera that is capable of receiving three-dimensional input. Examiner asserts that it would have been obvious to one of ordinary skill in the art to combine the device disclosed by Doyle with that of Vranish so as to produce the present invention. Applicant asserts that it would not have been obvious to combine Doyle and Vranish to produce the present invention because Vranish does not show or suggest that his device is capable of being used on a computer screen. In fact Vranish teaches away from the present invention (transparent capaciflector) as the capaciflector camera device disclosed in Vranish uses non-transparent highly electrically conductive electrodes and driven shields and grounds. The transparent capaciflector of the present invention must use transparent film materials to permit the operator to see through the electrodes and the driven shields as well as to enable these same electrodes and driven shields to effectively and efficiently transmit electric fields. Thus Vranish does not teach or suggest transparent capaciflector. Examiner further states that Wunderman teaches a first and second group of sensor pads connected to the array of pixels and that it would have also been obvious to combine the sensor pads of Wunderman with the features already disclosed in Doyle and Vranish so as to produce the present invention. For the reasons state above Applicant asserts that the combination of Doyle and Vranish with Wunderman would not have been obvious to one

of ordinary skill in the art at the time of the invention. Nevertheless, Applicant has amended claim 1 to further define over the prior art of record. Claim 1 has been amended to include the limitation of "**a transparent capaciflector camera"**. Further, Applicant's amendment includes the recitation of "receiving a signal from a connected sensor pad responsive to intrusion of a probe **disposed in front of said monitor screen**." The prior art neither shows nor suggest such an arrangement. Amended claim 1 and all claims that depend from it now define over the prior art of record and are believed to be in condition for allowance.

Claims 6-15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Doyle in view of Vranish and Wunderman as applied to claims 1-5 and further in view of Resman (6,459,424B1). Examiner asserts that Resman teaches the transparent shield layer disclosed in Vranish. Resman simply teaches a "top panel glass" with a resilient pad 51 overlayed thereon and electrodes 53 embedded. The present invention claims a transparent shield layer disposed between the monitor screen and the array of capacflective pixels. The prior art neither shows nor suggest this arrangement. Further, Applicant's amended claim 1 now defines over the prior art of record, thus claims 6-15 are also allowable as they depend from amended claim 1.

Claims 16-18, 24, 26, 31 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish (5,373,245). Examiner asserts Vranish teaches a method of forming a transparent capacflector camera. Examiner cites Vranish at Col 2 lines 25 and 26. However these lines simply state that it is an object of the invention to provide a "capacitive camera that will provide a 3-D image to give a robot." There is nothing in the '245 patent that shows or suggest a transparent capaciflector camera or a method for making a transparent capaciflector camera. Nevertheless, Applicant has amended claim 16 to further include the recitation of **" a) forming a shield layer on a non-conductive substrate, said shield layer being a transparent layer of conductive material and b) forming a first dielectric layer on said shield layer**. Nothing in the '245 patent teaches or suggest a transparent capaciflector camera or a method of making that includes the limitations recited in amended claim 16. Therefore amended claim 16 and all claims dependent from amended claim 16 are allowable over the prior art of record. Re claims 26 and 31, nothing in the '245 patent teaches or suggest a transparent capaciflector camera that includes a transparent shield layer, first and second dielectric layers and first and second wire layers. Thus, Applicant believes these claims are allowable over the prior art of record as originally submitted because Examiner has not demonstrated that these features are present or even suggested by the prior art of record. Therefore, claims 26, 31 and all claims that depend from them are allowable over the prior art of record.

Claims 19 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish in view of Wunderman. For the reasons stated in response to the rejection of above claims 16-18, 24, 31 and 32, claims 19 and 27 are also allowable over the prior art of record.

Claims 20-23, 25, 28-30 and 34 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vranish in view of Wunderman as applied to claim 19 and further in view of Resman. For the reasons stated in response to the rejection of above claims 16-19, 24, 27, 31 and 32, claims 20-23, 25, 28-30 and 34 are also allowable over the prior art of record.

Applicant has taken note of the references of interest kindly cited by the Examiner, i.e.; Simms; Lotito et al., Breed et al. And Chua et al. and believes that the prior art of record does not render the Applicant's invention unpatentable as presently claimed.

In view of the forgoing, claims 1- 16 and 18-34 are believed to be in condition for allowance and such favorable consideration is courteously solicited.

The number of independent claims has remained the same and the number of dependent claims has been reduced. The Commissioner is also authorized to charge any additional fees or credit any overpayment to Deposit Account No. 14-0116.

Should any unresolved issues remain to the allowance of this application, the Examiner is invited to contact Applicant's representative who may be reached at (301) 286-9279.

Respectfully submitted,

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Commissioner for Patents,
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November 3, 2003

Keith L. Dixon

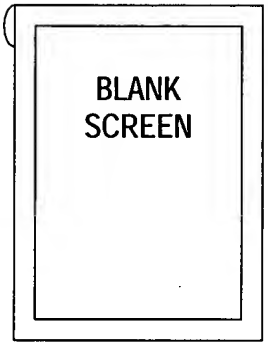

FIG. 12A

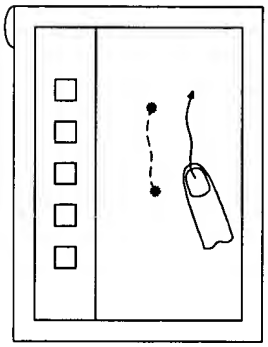

FIG. 12D

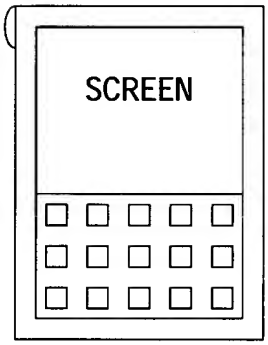

FIG. 12B

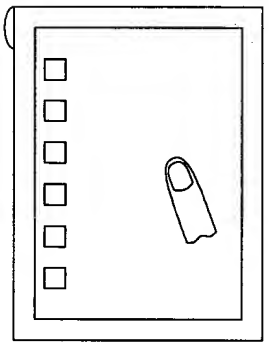

FIG. 12E

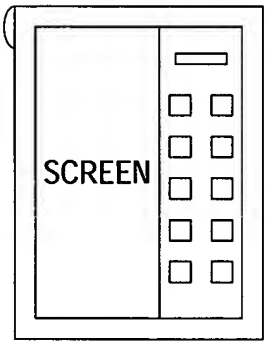

FIG. 12C

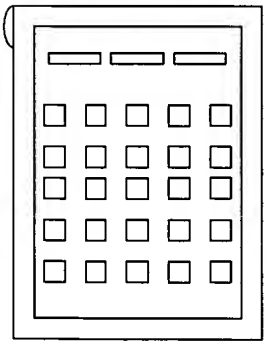

FIG. 12F